STATUS REPORT FOR FUMIGANT PESTICIDES

December, 2004

I. SCHEDULED AIR MONITORING

The Air Resources Board (ARB) has a network of stations that routinely monitor California's air for a variety of pollutants such as ozone, particulate matter, metals, and other toxic air contaminants. In 2002, ARB began monitoring for methyl bromide and 1,3-dichloropropene every 12 days at approximately 20 stations in primarily urban areas throughout the State. Results of monitoring in 2002 are available from the following ARB Web page:

http://www.arb.ca.gov/adam/toxics/toxics.html

The Department of Pesticide Regulation (DPR) has initiated a monitoring study to determine the relative emission rates of fumigants and check the effectiveness of buffer zones. DPR will monitor selected fumigations that use more than one fumigant and/or use an application method for which little or no monitoring has been conducted previously. The protocol for this study is available at the following web page:

http://www.cdpr.ca.gov/docs/empm/pubs/protocol/prot212.pdf

DPR has requested that ARB conduct ambient air monitoring for 1,3-dichloropropene and methyl bromide in 2005, for the toxic air contaminant program. DPR may also request additional ARB monitoring for sulfuryl fluoride.

II. ACUTE BUFFER ZONE MODELING

DPR utilizes a standard methodology to calculate buffer zones for acute exposures. Fumigant pesticide registrants and some grower groups have suggested some specific refinements to the current modeling methodology that they believe will improve the procedure and incorporate local information and more representative meteorological conditions. Industry has proposed an alternative approach to DPR's modeling procedures. Their approach would incorporate historical weather data, revising the method to estimate flux and the method to determine the size of buffer zones. The alternative approach would be utilized by the industry at their discretion in specific areas. The standard DPR model would remain in place statewide. In June 2004, DPR received industry's draft results of using their methodology to identify regions of the state with comparable weather conditions through statistical analysis. DPR staff is reviewing the draft results.

III. METHYL BROMIDE

1. Risk Assessment/Data Evaluation

The completed methyl bromide risk characterization document is available at:

http://www.cdpr.ca.gov/docs/methbrom/riskasses_fum.htm

2. Risk Management Status

- On November 3, 2004, the Office of Administrative Law approved the methyl bromide field fumigation regulations that pertain to the use of methyl bromide when used to fumigate soil prior to the planting of agricultural crops and focuses on mitigating possible acute (short-term) and subchronic (intermediate) methyl bromide exposure hazards to the public and agricultural employees.

  DPR adopted permanent methyl bromide field fumigation regulations that became effective on January 14, 2001, mitigating possible acute exposures to methyl bromide, and then adopted amendments to these regulations on April 8, 2002. However, the regulations were voided by a court decision (Ventura County Agricultural Association vs. DPR) on the grounds that DPR did not adequately consult with the California Department of Food and Agriculture prior to noticing the regulations. DPR filed emergency regulations to repeal and readopt these regulations since it was necessary to maintain continuity and to ensure continued protection of the health and safety of workers and the public when methyl bromide is used for field fumigation. During the process to permanently adopt these regulations, DPR determined additional mitigation measures were necessary and proposed an additional regulatory level to protect the public and agricultural employees from possible subchronic methyl bromide exposure hazards. (Specific details pertaining to the development of these regulations are outlined in the previous editions of this report.)

  This regulatory action made the methyl bromide field fumigation regulations permanent and became effective immediately.

- Information on the methyl bromide regulatory issues is found at the following DPR Web site:
  http://www.cdpr.ca.gov/docs/dprdocs/methbrom/fum_regs.htm

- On December 2, 2004, DPR regulations were challenged by a suit filed in San Francisco Superior Court. The Environmental Defense Center and two individuals allege:
  - that DPR did not use the recommendation of the Office of Environmental Health Hazard Assessment;
  - that County Agricultural Commissioners' discretion in setting buffer zones is an underground regulation;

- a lack of clarity on respiratory requirements and methods to ensure the performance standard for air concentrations.

3. Critical Use Exemption Under the Clean Air Act

- The Parties to the Montreal Protocol granted critical use exemptions (CUEs) to the U.S. for 35% of its baseline for 2005. At a recent meeting of the Parties, the U.S. secured an additional 2.5% of baseline for 2005. The U.S. also received a CUE for new production in 2006 of 27% of the historic baseline, and received interim approval for another 10% of baseline pending a rereview of the international level in June 2005. U.S. EPA has proposed rulemaking for allocating CUEs among methyl bromide users.

IV. 1,3-DICHLOROPROPENE

- DPR continues to use the California Management Plan: 1,3-Dichloropropene (1,3-D) to manage the use of 1,3-D throughout California.

- Information on the California Management Plan: 1,3-Dichloropropene is found at the following DPR Web site:
  http://www.cdpr.ca.gov/docs/dprdocs/methbrom/telone/mgmtplan.pdf

- Enforcement Letter, ENF 02-37 Recommended Permit Conditions for Using 1,3-D Pesticides (Fumigant) provides guidance to county agricultural commissioners and is posted on DPR's Web site at:
  http://www.cdpr. ca.gov/docs/enfcmpli/penfltrs/penf2002/2002menu.htm

V. CHLOROPICRIN

1. Risk Assessment/Data Evaluation

- DPR requested that ARB conduct monitoring for an application site in 2004.

- On October 16, 2001, DPR placed all products containing chloropicrin into reevaluation. The reevaluation is based on data submitted under the Birth Defect Prevention Act. These data indicate that chloropicrin has the potential to cause adverse health effects at low doses. Air monitoring data submitted by the Chloropicrin Manufacturers Task Force indicate that the air levels of chloropicrin at some distances from treated greenhouses or fields could exceed the NIOSH standard of 0.1 ppm. Under the reevaluation, chloropicrin registrants are required to submit: (1) worker exposure studies for each type of chloropicrin fumigation

site, and (2) ambient air quality monitoring and flux measurements from field and greenhouse applications, if methods other than the ones for which DPR already has data are to be employed. DPR received studies from registrants on December 8, 2004.

- Chloropicrin is currently in the risk assessment process.

- DPR is coordinating certain aspects of the exposure and risk assessments (e.g., study evaluations) with U.S. EPA.

VI. MITC GENERATING COMPOUNDS

1. Risk Assessment/Data Evaluation

   - The completed MITC risk characterization document is available at: http://www.cdpr.ca.gov/docs/empm/pubs/tac/finlmenu.htm

2. Risk Management Status

   - On December 2, 2002, DPR issued a public document that outlines its risk management decision.

   - DPR listed MITC and other compounds that generate MITC as toxic air contaminants.

   - On April 9, 2004, DPR issued a memorandum that outlines its risk management decision to mitigate acute, subchronic and chronic occupational exposures.

   - In July 2004, U.S. EPA and DPR discussed the possibility of collaborating on the development of mitigation measures. U.S. EPA and DPR agreed to collaborate on the development of mitigation measures. DPR will coordinate its release of a mitigation proposal concurrent with the release of U.S. EPA's management proposal.

VII. SULFURYL FLUORIDE

1. Risk Assessment/Data Evaluation

   - Sulfuryl fluoride is currently in the risk assessment process. Because DPR has identified sulfuryl fluoride as a potential toxic air contaminant under AB 1807, a draft risk characterization document was posted for public comment in September

2004. A public workshop on the risk assessment was held September 17, 2004. DPR anticipates presenting this assessment to the Scientific Review Panel early in 2005.

- ARB monitored two structural fumigations in 2004. ARB should complete the monitoring report in 2005.

- DPR and ARB met with the registrant (May 2004) to discuss their plan to modify the current aeration procedure for structural fumigation. The registrant plans to conduct air monitoring during the development of the new procedure; co-sampling by ARB was also discussed.

- A Section 3 registration request for a new product is currently in evaluation. The proposed product is intended to control post-harvest insect and rodent pests (in specific commodities) in non-residential structures, fumigant chambers, storage structures, and in food processing establishments.

VIII. POTENTIAL NEW FUMIGANTS/FUMIGANT ALTERNATIVES

- DPR has received applications from Arvesta, formerly Tomen Agro, to register products containing the active ingredient iodomethane (methyl iodide). DPR and the U.S. Environmental Protection Agency are conducting a joint review of the off-site air monitoring data.

- DPR has reviewed off-site and worker exposure monitoring protocols for dimethyl disulfide submitted by Cerexagri. Cerexagri initiated these monitoring studies this past summer.

IX. U.S. ENVIRONMENTAL PROTECTION AGENCY ACTIVITIES

The U.S. Environmental Protection Agency (U.S. EPA) is conducting parallel risk assessments for methyl bromide, chloropicrin, 1,3-dichloropropene, metam sodium, dazomet, and iodomethane. DPR is assisting U.S. EPA with computer modeling to estimate bystander exposures. DPR participated in a series of meetings with U.S. EPA's Scientific Advisory Panel to discuss several modeling approaches. Descriptions of the modeling approaches and other documents pertaining to the Scientific Review Panel meetings are posted to the following Web page:

http://www.epa.gov/scipoly/sap.index.htm

X. VOLATILE ORGANIC COMPOUNDS

Volatile organic compounds (VOCs) contribute to the formation of tropospheric ozone, which is harmful to human health when present at high enough concentrations. Many active and inert ingredients in pesticide products are VOCs. The federal Clean Air Act requires each state to submit a state implementation plan (SIP) for achieving and maintaining federal ambient air quality standards including the standard for ozone. The 1994 SIP requires a 12 percent reduction in pesticidal VOC emissions by 1999 in the San Joaquin Valley and a 20 percent reduction by 2005-2010 in four other areas of the State. U.S. EPA has established a more stringent ozone standard that will require additional VOC reductions from all sources, including pesticides. ARB and DPR will develop a new SIP that contains an element describing additional VOC reductions from pesticides. DPR estimates that 50-60 percent of VOC emissions from pesticides are due to fumigants. In May 2004, the Association of Irritated Residents and others filed a lawsuit against DPR and ARB alleging that the 1994 SIP provisions are not being met.